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09/547,627	04/12/2000	Daniel N. Duncan	066416.0103	5455

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EXAMINER	
BUI, BING Q	

ART UNIT	PAPER NUMBER
2642	

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Please find below and/or attached an Office communication concerning this application or proceeding.

cd

Office Action Summary

Application No.	Applicant(s)
09/547,627	Duncan et al
Examiner	**Art Unit**
Bing Bui	2642

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Jan 15, 2002* .

2a) ☒ This action is **FINAL.** 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-50* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other:

DETAILED ACTION

1. This action is in response to applicant's response filed on 01/15/02. Claims 1-50 are now pending in the present application. **This action is made final.**

Claim Rejections - 35 USC § 112

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 has been amended by Applicant to include the method of "estimating the probability of an inbound inquiry having a predetermined result". As defined in the specification (page 6, line 3) and understood by an ordinary skill person in the art, inbound inquiry is just simply a telephone call. Probability of a telephone call is vague unless probability of something of the telephone call, probability of completion of a telephone call for example. Therefore, for examination purpose, Examiner assumes the probability of outcome of the inbound inquiry that most likely fits in the claimed invention context.

Claim Rejections - 35 U.S.C. § 102

3. Claims 1, 3-35, 37-44 and 46 are rejected under 35 U.S.C. 102(e) as being anticipated by Walker et al (US Pat No. 6,088,444).

Regarding claim 1, Walker et al teach the invention as claimed, a method for ordering inbound inquiries comprising:

receiving plural inbound inquiries, each inbound inquiry having associated inquiry information (Figs 5-8 and col 5, ln 24-col 6, ln 28);

applying a model to the inquiry information to determine a priority value for each inquiry (Figs 5-8 and col 5, ln 24-col 6, ln 28); and

ordering the inbound inquiries with the priority values (Figs 5-8 and col 5, ln 24-col 6, ln 28).

Regarding claim 3, Walker et al teach the invention as claimed, wherein the method inquiries comprise instant messages (col 2, ln 49-54).

Regarding claim 4, Walker et al teach the invention as claimed, wherein the inbound inquiries comprise inbound telephone calls having associated caller information (col 5, ln 24-31).

Regarding claim 5, Walker et al teach the invention as claimed, wherein the caller information comprises automatic number identification information (col 5, ln 24-31).

Regarding claim 6, Walker et al teach the invention as claimed, 25 6. wherein caller information comprise destination number identification information (col 5, ln 24-31).

Regarding claim 7, Walker et al teach the invention as claimed, the method further comprising the step of gathering the caller information with a voice response unit (col 5, ln 41-54).

Regarding claim 8, Walker et al teach the invention as claimed, the method further comprising:

associating demographic information with each inbound telephone call based on the caller information of the inbound call (Figs 5-8 and col 5, ln 24-col 6, ln 28); and

applying the model to the caller information to determine the priority value for each telephone call (Figs 5-8 and col 5, ln 24-col 6, ln 28).

Regarding claim 9, Walker et al teach the invention as claimed, wherein the model predicts caller behavior (col 3, ln 46-col 4, ln 8).

Regarding claim 10, Walker et al teach the invention as claimed, wherein the priority

value comprises a probability that the telephone call will result in a purchase (col 3, ln 46-col 4, ln 8).

Regarding claim 11, Walker et al teach the invention as claimed, wherein the priority value comprises a probability that the caller associated with the telephone call will terminate the call after a hold time (col 3, ln 46-col 4, ln 8).

Regarding claim 12, Walker et al teach the invention as claimed, the method further comprising the step of developing plural models from a history of inbound inquiries to forecast plural outcomes that determine the priority value (col 3, ln 64-col 4, ln 8 and col 6, ln 29-42).

Regarding claim 13, Walker et al teach the invention as claimed, wherein developing the model further comprises: applying regression analysis to the history to calculate the priority value (col 3, ln 64-col 4, ln 8 and col 6, ln 29-42).

Regarding claim 14, Walker et al teach the invention as claimed, the method further comprising the step of:

determining the outcomes of the plural inbound inquiries (col 3, ln 64-col 4, ln 8 and col 6, ln 29-42); and

updating the history with the outcomes of the plural inbound inquiries (col 3, ln 64-col 4, ln 8 and col 6, ln 29-42).

Regarding claim 15, Walker et al teach the invention as claimed, wherein developing the caller model further comprises: updating the model with the updated history (col 3, ln 64-col 4, ln 8 and col 6, ln 29-42).

Regarding claim 16, Walker et al teach the invention as claimed, a method for determining inbound telephone call priority, the method comprising:

developing one or more models from a history of inbound calls, the history having caller information and outcome results from inbound telephone calls (col 3, ln 46-col 4, ln 8);

applying the model to caller information of a pending inbound call to predict an outcome of the pending inbound call (col 3, ln 46-col 4, ln 8); and

associating a priority with the pending inbound call, the priority based on the predicted outcome (col 3, ln 46-col 4, ln 8).

As to claims 17-19, they are rejected for the same reasons set forth to rejecting claims 4-6, respectively.

Regarding claim 20, Walker et al teach the invention as claimed, wherein the caller information further comprises account information, the method further comprising the step of obtaining account information for the pending inbound call, the account information stored in a database by association with the telephony information (col 3, ln 15-38).

As to claim 21, it is rejected for the same reasons set forth to rejecting claim 7.

As to claim 22, it is rejected for the same reasons set forth to rejecting claim 20.

As to claims 23-25, they are rejected for the same reasons set forth to rejecting claims 9-11, respectively.

Regarding claim 26, Walker et al teach the invention as claimed, the method further comprising the step of placing the pending inbound call in the queue of an automatic call distribution system in an order based on the priority of the pending inbound call (col 3, ln 15-25).

As to claim 27, it is rejected for the same reasons set forth to rejecting claim 16.

Regarding claim 28, Walker et al teach the invention as claimed, wherein the predicted outcome comprises the hold time of the pending inbound call (col 6, ln 29-42).

Regarding claim 29, Walker et al teach the invention as claimed, wherein associating priority further comprises optimizing the order for the inbound telephone calls (col 6, ln 43-54).

Regarding claim 30, Walker et al teach the invention as claimed, wherein optimizing the order comprises solving a constrained optimization problem using one or estimates from one or more models (col 6, ln 43-54).

Regarding claim 31, Walker et al teach the invention as claimed, wherein optimizing further comprises maximizing agent productivity to minimize caller attrition (col 6, ln 43-54).

Regarding claim 32, Walker et al teach the invention as claimed, wherein optimizing further comprises maximizing agent productivity to produce sales (col 6, ln 43-54).

Regarding claim 33, Walker et al teach the invention as claimed, system for scheduling inbound calls comprising:

a receiving device operable to receive plural inbound inquiries and to provide the inbound inquiries to one or more agents (Figs 1-2 and col 3, ln 15-25);

a scheduling module interfaced with the receiving device, the scheduling model operable to order the inbound inquiries for handling by the receiving device, the order based in part on the predicted outcome of the inbound inquiries (col 3, ln 46-col 4, ln 8).

As to claims 34-35, they are rejected for the same reasons set forth to rejecting claim 26 above, since claims 34-35 are merely a system for implementing the method defined in the method claim 26.

As to claim 37, it is rejected for the same reasons set forth to rejecting claim 7 above, since claim 37 is merely a system for implementing the method defined in the method claim 7.

Regarding claim 38, Walker et al teach the invention as claimed, the system further comprising:

an inbound call history data base operable to store outcome results and caller information from plural completed inbound calls (col 3, ln 64-col 4, ln 8 and col 6, ln 29-42); and

a modeling module interfaced with the history database and operable to model inbound call outcomes from the stored outcome results and caller information (col 3, ln 64-col 4, ln 8 and col 6, ln 29-42).

As to claim 39, it is rejected for the same reasons set forth to rejecting claim 33.

As to claim 40, it is rejected for the same reasons set forth to rejecting claim 26 above, since claim 40 is merely a system for implementing the method defined in the method claim 26.

As to claim 41, it is rejected for the same reasons set forth to rejecting claim 12 above, since claim 41 is merely a system for implementing the method defined in the method claim 12.

As to claim 42, it is rejected for the same reasons set forth to rejecting claim 29 above, since claim 42 is merely a system for implementing the method defined in the method claim 29.

As to claim 43, it is rejected for the same reasons set forth to rejecting claim 31 above, since claim 43 is merely a system for implementing the method defined in the method claim 31.

As to claim 44, it is rejected for the same reasons set forth to rejecting claim 1.

As to claim 46, it is rejected for the same reasons set forth to rejecting claim 3.

Claim Rejections - 35 U.S.C. § 103

4. Claims 2, 36, 45 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al as applied to claims 1, 33 and 44 above, and further in view of Rogers et al (US Pat No. 5,946,386).

Regarding claims 2, 36, 45 and 47, Walker et al teach the invention substantially as claimed, with exception of providing the plural media comprise telephone calls and e-mail messages and voice of internet. However, Rogers et al disclose a system in which communication users can communicate to each other in form of voice and data via Internet (Fig 1; col 11, ln 45-50 and col 28, ln 42-54).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the use of internet as taught by Rogers et al into communication system of Walker et al to enable the communication users to exchange the e-mail or voice which provides more communication flexibility and communication cost saving to such communication users.

5. Claims 48-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al in view of Gisby (US Pat No. 6,002,760), of record.

Regarding claims 48-49, Walker et al teach the invention substantially as claimed, a method for ordering inbound inquiries comprising:

receiving plural inbound inquiries, from plural inquiry media, each inbound inquiry having associated inquiry information (Figs 5-8 and col 5, ln 24-col 6, ln 28);

applying the inquiry information to one or more models to determine a priority value for each inquiry (Figs 5-8 and col 5, ln 24-col 6, ln 28); and

ordering the inbound inquiries with the priority values (Figs 5-8 and col 5, ln 24-col 6, ln 28).

Walker et al differs from claimed invention in that it does not explicitly teach the method of scheduling one or more inbound inquiries for an outbound contact attempt at a time based on the priority of the inbound inquiry and informing the inquirer time scheduled for call back. However, Gisby teaches a method in which one or more callers waiting in the queue can leave or disconnect from the queue and to be scheduled for call back for processing without loosing priority order in the queue, wherein time scheduled for call back is informed to each caller (col 6, ln 57-col 7, ln 5).

Therefore, having the cited art, it would have been obvious to one of ordinary skill in the art to add the method of scheduling and informing time for calling back to the callers who left the queue without loosing priority order in the queue to provide both caller and organization processing the call more convenience in managing time and resources.

6. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al in view of Jolissaint (US Pat No. 5,040,208).

Regarding claim 50, Walker et al teach the invention substantially as claimed, a method for ordering inbound inquiries comprising:

receiving plural inbound inquiries, from plural inquiry media, each inbound inquiry having associated inquiry information (Figs 5-8 and col 5, ln 24-col 6, ln 28);

applying the inquiry information to one or more models to determine a priority value for each inquiry (Figs 5-8 and col 5, ln 24-col 6, ln 28); and

ordering the inbound inquiries with the priority values (Figs 5-8 and col 5, ln 24-col 6, ln 28).

Walker et al differs from claimed invention in that it does not explicitly teach the method of asking the inbound inquirer for the channel and time for a response and scheduling a response at the channel and time. However, Jolissaint teaches a method in which one or more callers waiting in the queue can leave or disconnect from the queue to be asked for providing telephone number (channel) and time made available for called back (col 3, ln 40-62).

Therefore, having the cited art, it would have been obvious to one of ordinary skill in the art to add the method of asking the caller for providing telephone number (channel) and time made available for called back to provide caller more convenient in managing his time.

Response to Arguments

7. Applicant's arguments filed on 01/15/02 have been fully considered but they are not persuasive.

With respect to Applicant's Remarks, Applicant mainly argues that Walker does not teach the limitations of claims 1, 16, 33, 39, 44 and 48-50. Examiner respectfully disagrees for the following reasons:

As to claims 1, 16, 44 and 48-50, Applicant mainly argues that Walker fails to teach, disclose or suggest the method of estimating the probability of an inbound inquiry having a predetermined result and applying the inquiry information to one or more models to determine a priority value for each inquiry. As pointed out the reason for rejection of claim 1 under the second paragraph of 35 U.S.C. 112 previously cited by Examiner, Examiner assumes that the probability of an inbound inquiry is understood as the probability of outcome, profitability result for example, of the inbound inquiry. Based on this assumption, Examiner believes that Walker discloses the invention as the recited claims by the following reasons:

The priority of an inbound inquiry (telephone call) or in another word, the position order of the inbound inquiry (telephone call) in a queue, is determined based on the economic value wherein the economic value is figured from at least one of two models: first model is the economic value that resulted from instant number of items or total dollar amount of the order currently requested by customer; and second model is the

economic value that figured from customer historical data (customer status). By examining Walker's invention, from column 3, line 64 though column 4, line 8, it is understood that the probability of yielding the business center a low or high profit can be estimated, the inbound inquiry (telephone call) having six orders of over $100 per year (predetermined result) giving the probability of higher profit than the one having $200 per year. Furthermore, by examining Walker's invention, an ordinary skill person in the art will recognize that the probability of profit outcome is main reason for prioritizing the inbound inquiry.

As to claims 33 and 39, Examiner maintains his point of view that previously addressed in Paper No. 6 in addition to the reasons for disagreement with Applicant cited above,

For above reason, Walker is maintained for supporting the Examiner's Final Action.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Levy et al (US Pat No. 5,291,550) disclose a system and method for differently distributing calls wherein calls of the most profitable type may be given preference for completion.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bing Bui whose telephone number is (703) 308-5858. The examiner can normally be reached on Monday through Thursday from 7:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar, can be reached on (703) 305-4731. The fax phone number

for the organization where this application or proceeding is assigned is (703) 872-9314 and for formal communications intended for entry (please label the response "EXPEDITED PROCEDURE") or for informal or draft communications not intended for entry (please label the response "PROPOSED" or "DRAFT").

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

BING BUI
Mar 29, 2002

AHMAD MATAR
SUPERVISORY PATENT EXAMINER
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